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December 2000

# France

France is one of the world's largest nuclear power producers, but has very limited fossil fuel resources. The 1999 merger of its top two oil companies formed the fourth largest oil company in the world.

The information in this report is the best available as of December 2000 and is subject to change.



## BACKGROUND

One of the world's largest economies, France is a founding member of the European Union (EU) and a member of the Group of Seven (G-7) industrialized nations, the General Agreement on Tariffs and Trade (GATT)/World Trade Organization (WTO), the International Energy Agency (IEA), and the International Atomic Energy Agency (IAEA). France joined the common European currency, the euro, on January 1, 1999. The country is considered to have a healthy economy overall, despite continued high unemployment.

Traditionally, the role of the state has been stronger in France than in other Western European countries. France is one of the most centralized countries in Europe with a strong history of state ownership in the aviation, telecommunications, and energy industries. However, the role of the government now is changing. Important economic and political changes in France include widespread privatization and increasingly frequent mergers and acquisitions (M&As) and hostile corporate takeovers, once virtually unheard of in France.

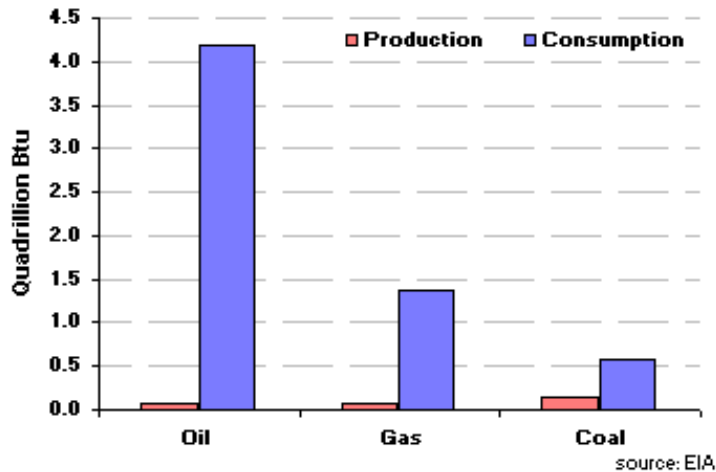
International pressures of globalization and more direct pressure from the EU are behind the current trend away from government involvement in industry. The French government is headed by the moderate socialist prime minister, Lionel Jospin, and the Gaullist president, Jacques Chirac, under the French system of governmental "cohabitation." The divided government has moved very slowly toward privatization of the country's energy industry, despite an EU directive that calls for member states to relinquish control of their energy companies to the private sector.

French energy policy has been relatively consistent in recent decades, with the main objectives including: securing

energy supply, achieving international competitiveness, and protecting the environment. The focus on energy security has led France to become one of the world's top producers and consumers of nuclear power.

Limited domestic fossil fuel reserves leave France vulnerable to fluctuating world oil prices. As high oil prices prompted strikes and demonstrations throughout Western Europe in early September 2000, Prime Minister Jospin granted fuel tax concessions in response to demands from the French trucking lobby. Also in response to the price spike, the French government and the Agency for Environment and Energy Management (ADEME) announced plans to bolster energy efficiency. Plans call for increasing public awareness about energy savings, promoting improved home insulation and economizing on trips in private vehicles.

**French Fossil Fuel Energy Production and Consumption, 1998**



### **OIL**

About 1.9 million barrels per day (bbl/d) of France's approximate 2 million bbl/d oil consumption are imported. France has reserves totaling only 107 million barrels. Because of France's limited domestic fossil fuel energy sources, security of supply historically has been a major concern.

Despite France's limited domestic reserves and production, the French oil industry is an important actor in world energy markets. Major oil assets of French oil companies are located in the North Sea, Africa, and Latin America. French imports come primarily from Saudi Arabia and Norway, followed by the United Kingdom (UK), Iraq, Iran, Nigeria, and Russia.

Major merger activity within the industry is creating an even more powerful French presence in world markets. In early 1999, French oil company Total merged with Belgian oil company Petrofina to create TotalFina, the world's sixth-largest oil company and the third-largest oil company in Europe. Only months later, TotalFinaElf was formed by TotalFina's acquisition of Elf Aquitaine. After the deal was completed in 2000, TotalFinaElf became the fourth largest oil company in the world, after ExxonMobil, Royal Dutch/Shell, and BP. Both Total and Elf Aquitaine were formerly state-held companies. Elf Aquitaine was only slightly smaller than the merged TotalFina, and larger than pre-merger Total. The merged TotalFinaElf agreed to divest some of its downstream holdings, in keeping with EU antitrust provisions. TotalFinaElf owns more than 50% of the refinery capacity in France.

### **Downstream**

Increasingly strict EU environmental regulations for refineries are in large measure behind recent upgrades in the French refining sector. The regulations will become considerably more strict in 2005, and substantial investment in the refining sector will be necessary to meet these new mandatory targets. Esso has begun adapting its Port Jerome refinery to 2005 EU specifications.

Because oil security has been such a concern for French energy policy-makers, there is a French law allowing the French government to refuse to close a refinery if it believes its supply or price security is at risk. Essentially, this gives the French government veto power over EU legislation regarding refineries. This could become an important issue as the EU's environmental standards are strengthened further.

In response to unusually high oil prices in late summer 2000, the French government and TotalFinaElf took measures to mitigate the effects of the price hike on end use oil consumers. TotalFinaElf cut prices in its retail gas stations in late September 2000, shortly after Prime Minister Jospin agreed to limited tax concessions. There also was discussion of releasing France's strategic petroleum reserve, although this did not come to fruition.

### **NATURAL GAS**

France has very limited natural gas resources and therefore imports almost all of the gas it consumes. The French gas industry is run by Gaz de France (GdF), the state-held company with a monopoly on importation, transportation, and distribution of natural gas in France. GdF has increased substantially its holdings in North Sea gas over the past few years. GdF supplies about a fifth of total French consumption from its holdings in France and abroad. Norway is France's top natural gas imports supplier, followed by Russia and Algeria. Russian gas imports have been declining in recent years, while Algerian imports have been rising. However, there has been discussion of a new pipeline to

connect Russian gas to France in a route that will bypass Ukraine. The Netherlands is a smaller source of French gas imports.

GdF will lose its monopoly in the French gas market as EU legislation mandating fully competitive energy sectors comes into effect. The first step towards liberalization came in August 2000, when the EU required that 20% of member countries' gas markets become competitive. About 100 of the country's largest industrial consumers now are able to choose their suppliers.

In support of competition in the French market, four French companies (including Rhodia, Saint Gobain, Pechiney, and Solvay) allied in autumn 2000 to invite international energy companies to bid for the rights to supply gas to 19 industrial plants. The 19 plants reportedly account for 5% of the total gas market in France, and one-fifth of that part of the market that qualifies to choose its own supplier. GdF might win the bid, but most likely offering lower prices than the plants currently pay.

France has been one of the slower countries to pave the way for competition, for which it has come under harsh criticism from the EU and fellow member countries Germany and the United Kingdom. In September 2000, the European Commission (EC, the executive body of the EU) sent a formal warning letter to France for failure to notify the EC of national laws enacted to ensure implementation of the 1998 Natural Gas Directive. Although France adopted draft legislation in May 2000, the full national parliament has not yet passed a law to open the market. Many factions of the parliament, including members of the socialist party, are opposed to passing such legislation. However, France has made progress toward opening transportation and distribution to third parties.

GdF is establishing France as a hub for Western European natural gas. In October 1998, France for the first time became linked via pipeline to a foreign production field. The NorFra pipeline linked Norway's Troll gas field in the North Sea to the French natural gas grid. The pipeline is 840 kilometers (521 miles) long, and is the longest undersea gas pipeline in the world. About half of the gas from the pipeline will transit through France to points in Italy and Spain, while the other half will be consumed in France. By 2005, the Norwegian pipeline is expected to supply one-third of France's total gas consumption.

GdF is constructing the Les Marches du Nord-Est pipeline, slated for completion in 2001. GdF has signed a 25-year contract with Italy's SNAM for delivery of 6 billion cubic meters (Bcm, or 212 billion cubic feet, Bcf) of Norwegian gas through the pipeline.

### **Liquefied Natural Gas**

Increasing France's importance as a transit center, GdF receives Nigerian liquefied natural gas (LNG) at its Montoir de Bretagne terminal, mostly to serve an Italian contract for Nigerian LNG. The terminal receives 4 Bcm (141 Bcf) annually, 3.5 Bcm (124 Bcf) under the Italian contract and 0.5 Bcm (18 Bcf) under a contract signed by GdF. In 1992, Italy's ENEL signed a 22-year contract for the Nigerian LNG but has no terminal at which to regasify the LNG. The Nigerian gas will be delivered to the GdF terminal, and an equal volume of Algerian and Russian gas will be delivered to Italy in a "roundabout" system.

### **COAL**

France has very limited coal reserves and neither produces nor consumes significant amounts of coal. Coal-fired electricity has been mostly replaced by nuclear power. Imports come from Australia, the United States, and South Africa.

The French government has supported the coal industry since the 1994 National Coal Pact between Charbonnages de France (CdF), the state coal company, and French coal miners unions. According to the agreement, the industry would receive state support as it gradually phased out the industry all together. All French coal mines are slated to be shut down by 2005. In September 2000, the EC approved retroactively the French coal industry aid.

## **ELECTRICITY**

France is the second-largest electricity market in Europe (behind Germany). France's electricity sector is dominated by the state-held monopolist, Electricite de France (EdF), which produces, transports, and distributes virtually all electricity in France. EdF is the last major state-run electricity monopolist in the EU, as most of France's neighbors have privatized their electricity companies.

A 1996 EU directive required that at least 26% of electricity sales in member countries be opened to competition, beginning in February 1999. This requirement increased to

28% in February 2000 and will further increase to 33% in 2003. In February 2000, a full year after the first EU deadline, France passed legislation that began the electricity sector's liberalization. Since that time, about 1,200 large industrial and commercial consumers comprising about 30% of the market have been able to choose their electricity supplier (although very few of these consumers actually have changed suppliers). EdF estimates that a full third of French electricity consumers will have choice in providers by the beginning of 2001, putting the country well ahead of the EU deadline of 2003. However, there has been criticism that the February 2000 law's requirement of three-year contracts is an obstacle to the real establishment of a free market.

An energy regulatory body has been established to oversee the deregulation process. The Commission for the Regulation of Electricity (CRE), which also will oversee natural gas deregulation when the time comes, has four main purposes: to establish tariffs for third party use of EdF's transmission lines, to ensure independent grid management, to guarantee third party access to transmission and distribution networks, and to ensure that there is no discrimination favoring the dominant supplier. CRE has not yet assumed all these duties, but will gradually take on more responsibility as liberalization continues.

EdF has come under criticism from member EU countries and the EU/EC for entering foreign electricity markets while the French market remained closed to competition. The EC is skeptical about current EdF plans to purchase 25% of German utility Energie Baden-Wurttemberg, which serves the German-French border area. In October 2000, the EC began an investigation into whether the deal would be anti-competitive, eliminating a potential challenger to EdF for French market share.

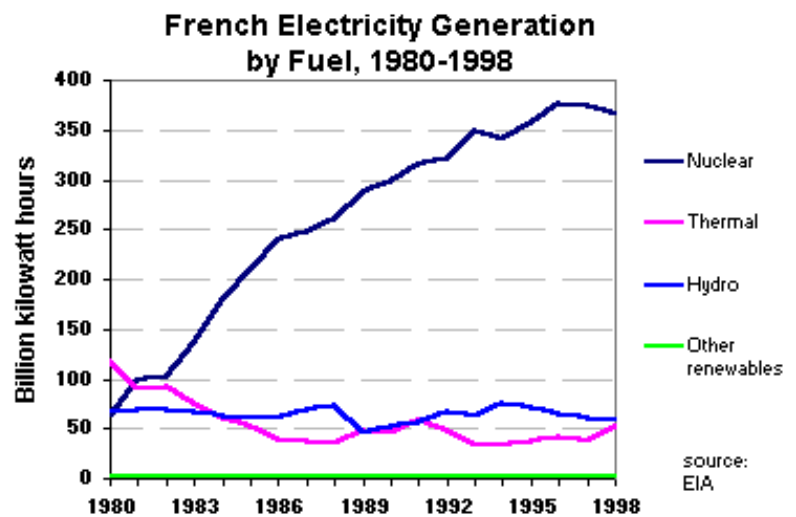
In November 2000, France's second-largest electricity producer, Compagnie Nationale du Rhone, planned to team up with Belgium's Electrabel to create a joint venture to challenge EdF's monopoly. The new company, Energie du Rhone, will market energy generated at Compagnie Nationale du Rhone's 18 hydropower stations, which currently supply 3% of French electricity consumption.

Societe Nationale d'Electricite et de Thermique (SNET) is France's second-largest electricity company in terms of installed capacity, with several coal plants, and is more than 80% owned by the state coal company, CdF (with EdF owning the remaining shares). The company produces less than 3% of French electricity. A public tender for CdF's share of SNET resulted in Spanish utility Endesa acquiring 30% of CdF's stake, on the condition that the French government agree to allow Endesa to gain complete control of SNET by 2003.

Endesa and Italy's ENEL have discussed with EdF the potential for power asset swapping between the three companies. This could provide a means of increasing foreign involvement in the French electricity sector, but critics charge that it does not allow smaller companies the chance to compete. Exploratory talks have been held regarding the swaps, but the Spanish government decided in late November against allowing Endesa, which recently received approval to merge with Spain's second-largest utility, to participate.

### **Nuclear**

France is the world's largest nuclear power generator on a per capita basis, and ranks second in total installed nuclear capacity (behind the United States). Because of France's extremely limited domestic energy sources, energy supply security and reliance on imports are major issues in France. Government policy has seen the dramatic increase in nuclear power generation over the last three decades. Currently, almost 80% of French electricity comes from France's 57 nuclear power plants. This has changed dramatically since 1973, when fossil fuels accounted for



more than 80% of generation.

France is now seen to be retreating slowly from its staunchly pro-nuclear position. Previously, the government planned to have nuclear power reach 100% of electricity generation. Environmental objections have increased in recent years. Germany's decision to phase out nuclear power started a public debate within France about the future of its own industry, and public opinion polls showed that a growing percentage of the public favors an end to nuclear power.

France now must decide whether to replace obsolete nuclear plants with more modern nuclear plants, or to begin phasing out nuclear power. Since 1997, the ruling government of Prime Minister Jospin has included members of the Green Party, *Les Verts*. The Greens have threatened to pull out of the coalition unless a nuclear power phase out begins.

According to an announcement by the French Finance Minister in early December 2000, France's nuclear operations are to be reorganized. One holding company, which at first would be mostly owned by the industrial division of the state Atomic Energy Commissariat, would own two companies. One company would be based on the nuclear fuels group Compagnie Generale des Matieres Nucleares, or Cogema, and Framatome SA, which builds nuclear plants and assemblies. The other would be built around FCI, a subsidiary of Framatome which makes connection material for the nuclear and electricity industries. The capital of the new structure eventually would be open to industrial partners and the amount of stock available on the market would be increased over time.

## ENVIRONMENT

Although it has sometimes run afoul of European Union legislation, France has a relatively good record on [environmental issues](#). The country's lack of fossil fuel resources, in addition to making France keenly aware of the importance of energy security, paradoxically has made France rely on cleaner energy sources. Nevertheless, France recently suffered twin blows to its environment--a [large oil spill and a devastating wind storm](#). In addition, [air pollution](#), especially in Paris, remains a pertinent environmental issue to urban dwellers.

In general, however, most energy-related environmental trends in France appear positive. The country's rate of [energy consumption](#) is holding steady, and France's [energy and carbon intensity](#) are on the decline. In addition, France recently announced an extensive 10-year plan to curb its [carbon emissions](#) in order to meet its commitments under the Kyoto Protocol--one of the first countries to do so.

As part of this plan, France has reiterated its need to develop [renewable energy sources](#) to maintain its energy self-sufficiency. Although [nuclear energy](#) has helped to provide France with the energy independence the country desires, objections to nuclear energy are increasing. Although France is making great strides in implementing the tenants of sustainable development, in the [21st century](#) energy efficiency measures in all sectors of the economy likely will be needed in order to make it a realistic proposition.

*Sources for this report include: CIA World Factbook; Dow Jones News Wire service; Economist; Economist Intelligence Unit ViewsWire; Financial Times; Petroleum Economist; Petroleum Intelligence Weekly; U.S. Energy Information Administration; WEFA World Economic Outlook.*

## COUNTRY OVERVIEW

**President:** Jacques Chirac (since May 1995)

**Prime Minister:** Lionel Jospin (since June 1997)

**Independence:** 486 (unified by Clovis)

**Population (July 2000E):** 59.3 million

**Location/Size:** Western Europe, bordering the Bay of Biscay and English Channel, between Belgium and Spain southeast of the UK; bordering the Mediterranean Sea, between Italy and Spain/547,030 sq km (slightly less than twice the size of Colorado)

**Language:** French 100%, rapidly declining regional dialects and languages (Provençal, Breton, Alsatian, Corsican, Catalan, Basque, Flemish)

**Ethnic groups:** Celtic and Latin with Teutonic, Slavic, North African, Indochinese, Basque minorities

**Religions:** Roman Catholic 90%, Protestant 2%, Jewish 1%, Muslim (North African workers) 1%, unaffiliated 6%

**Defense (8/98):** Army 203,200; Air Force 78,100; Navy 63,300

## ECONOMIC OVERVIEW

**Economy, Finance, and Industry Minister:** Laurent Fabius



**Currency:** French Franc

**Exchange Rate (12/14/00):** 1 US Dollar = 7.4813 French Franc

**Gross Domestic Product (nominal GDP, 2000E):** \$1.2 trillion

**Real GDP Growth Rate (2000E):** 3.5% **(2001F):** 3.3%

**Inflation Rate (consumer prices, 2000E):** 1.3% **(2001F):** 1.4%

**Unemployment Rate (2000E):** 9.8% **(2001F):** 9.1%

**Exports of Goods and Services (2000E):** \$334 billion

**Imports of Goods and Services (2000E):** \$310 billion

**Major Trading Partners:** Germany, Italy, Belgium and the United Kingdom

**Major Export Products:** Machinery and transport equipment, agricultural products, chemical products

**Major Import Products:** Machinery and transport equipment, agricultural products, chemical products, and energy

### **ENERGY OVERVIEW**

**Proven Oil Reserves (1/1/00):** 107 million barrels

**Oil Production (2000E):** 78,000 barrels per day (bbl/d), of which 28,000 bbl/d is crude oil

**Oil Consumption (2000E):** 2 million bbl/d

**Net Oil Imports (2000E):** 1.9 million bbl/d

**Crude Oil Refining Capacity (1/1/00):** 1.9 million bbl/d

**Natural Gas Reserves (1/1/00):** 509 billion cubic feet (Bcf)

**Natural Gas Production (1998E):** 0.08 trillion cubic feet (Tcf)

**Natural Gas Consumption (1998E):** 1.37 Tcf

**Net Natural Gas Imports (1998E):** 1.29

**Coal Reserves (12/31/96):** 128 million short tons (Mmst)

**Coal Production (1998E):** 6 Mmst

**Coal Consumption (1998E):** 26 Mmst

**Electric Generation Capacity (1/1/98):** 108 gigawatts

**Electricity Generation (1998E):** 481 billion kilowatthours (bkwh), 76% nuclear, 13% hydro, 11% thermal, less than 1% other renewables

**Electricity Consumption (1998E):** 389 bkwh

**Net Electricity Exports (1998E):** 92 bkwh

### **ENVIRONMENTAL OVERVIEW**

**Minister of Regional Development and Environment:** Dominique Voynet

**Total Energy Consumption (1998E):** 10.0 quadrillion Btu\* (2.6% of world total energy consumption)

**Energy-Related Carbon Emissions (1998E):** 106.6 million metric tons of carbon (1.7% of world carbon emissions)

**Per Capita Energy Consumption (1998E):** 170.0 million Btu (vs. U.S. value of 350.7 million Btu)

**Per Capita Carbon Emissions (1998E):** 1.8 metric tons of carbon (vs. U.S. value of 5.5 metric tons of carbon)

**Energy Intensity (1998E):** 7,400 Btu/ \$1990 (vs U.S. value of 13,400 Btu/ \$1990)\*\*

**Carbon Intensity (1998E):** 0.08 metric tons of carbon/thousand \$1990 (vs U.S. value of 0.21 metric tons/thousand \$1990)\*\*

**Sectoral Share of Energy Consumption (1997E):** Industrial (40.3%), Residential (23.8%), Transportation (20.3%), Commercial (15.6%)

**Sectoral Share of Carbon Emissions (1997E):** Transportation (39.4%), Industrial (34.3%), Commercial (10.3%), Residential (16.1%)

**Fuel Share of Energy Consumption (1998E):** Oil (41.9%), Natural Gas (13.8%), Coal (5.8%)

**Fuel Share of Carbon Emissions (1998E):** Oil (67.6%), Natural Gas (18.6%), Coal (13.7%)

**Renewable Energy Consumption (1997E):** 1,133 trillion Btu\* (2% decrease from 1996)

**Number of People per Motor Vehicle (1997):** 1.9 (vs. U.S. value of 1.3)

**Status in Climate Change Negotiations:** Annex I country under the United Nations Framework Convention on Climate Change (ratified March 25th, 1994). Signatory to the Kyoto Protocol (April 29th, 1998)- not yet ratified.

**Major Environmental Issues:** Some forest damage from acid rain; air pollution from industrial and vehicle emissions; water pollution from urban wastes and agricultural runoff

**Major International Environmental Agreements:** A party to Conventions on Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Law of the Sea, Marine Dumping, Marine Life Conservation, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling. Has signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Climate Change-Kyoto Protocol

\* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar and wind electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also

based on IEA data.

\*\*GDP based on EIA International Energy Annual 1998

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## **Links**

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Links to other U.S. Government sites:

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[U.S. Department of Energy on French Nuclear Sector](#)

[U.S. State Department Consular Information Sheet - France](#)

[U.S. Department of Commerce Country Commercial Guide - France](#)

[U.S. State Department Background Notes on France](#)

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[Gaz de France](#)

[Charbonnages de France](#)

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